

# B R E V I O R A

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### A NEW SCINCID LIZARD FROM BOUGAINVILLE, SOLOMON ISLANDS

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**ABSTRACT.** The relationships of *Sphenomorphus transversus*, n. sp., from Bougainville, Solomon Islands, are obscure, but in squamation it is most similar to *maculatus*, *boulengeri*, *formosensis*, *lineopunctulatus*, and *indicus* from eastern Asia; *melanochlorus* from New Guinea; and *sanctus* from Sumatra and Java. *S. transversus* differs most noticeably from these species and from other Bougainville skinks in its dorsal pattern of transverse dark brown bands on a light olive ground color.

During investigations in 1960–1963 by Parker on Bougainville, Solomon Islands, a single individual of a previously undescribed species of skink was collected. Since one subsequent trip (1966) has failed to uncover other specimens of the species, and as the possibilities of a second return trip to Bougainville in the near future are slim, it seems best to describe the new species from the single specimen at hand.

On the basis of current generic concepts, the species is assigned to the genus *Sphenomorphus* and may be known as

#### *Sphenomorphus transversus*<sup>2</sup> new species

**Holotype.** Museum of Comparative Zoology 76485; collected by a native for Fred Parker at about 2000 feet above sea level in an area approximately five miles east of Kunua, northeastern Bougainville (Fig. 1), on 9 September 1962.

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<sup>2</sup> The species name calls attention to the dark transverse bars on the dorsum.

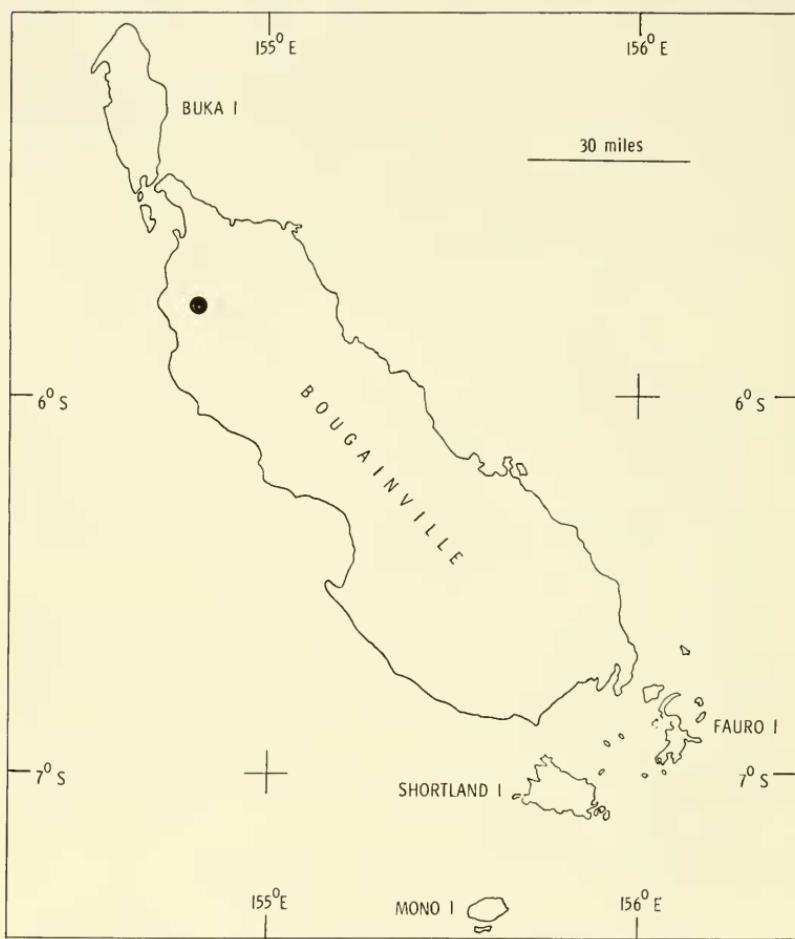


Figure 1. Map of Bougainville showing the location approximately 5 miles east of Kunua where the type and only known specimen of *Sphenomorphus transversus* was collected.

**Diagnosis.** Similar in squamation to those skinks of the genus *Sphenomorphus* (Table 1) that have a single anterior loreal, the frontal in contact with 3 or more of the 5 or more supraoculars, frontoparietals and interparietal distinct, no nuchals or transversely enlarged scales in the two vertebral rows (Figs. 2 and 3),

and the digits and limbs well developed and overlapping when adpressed to the body, but differing from other skinks with this diagnosis in having the following combination of characters: prefrontals separated medially, 36 rows of smooth scales around mid-body, 28–29 smooth subdigital lamellae on the 4th toe, and a color pattern of brown transverse bands on a light olive-green ground color (Figs. 4 and 5) — a color pattern most similar to those of the distantly related *Sphenomorphus flavipes*, *Scincella prehensicauda*, and *Leioplosma semoni* of New Guinea.

*Description.* Body form relatively slender; well-developed pentadactyl digits and limbs that overlap when adpressed to the body (tip of 4th toe reaches middle of forearm); snout-vent length 68 mm, tail 92 mm.

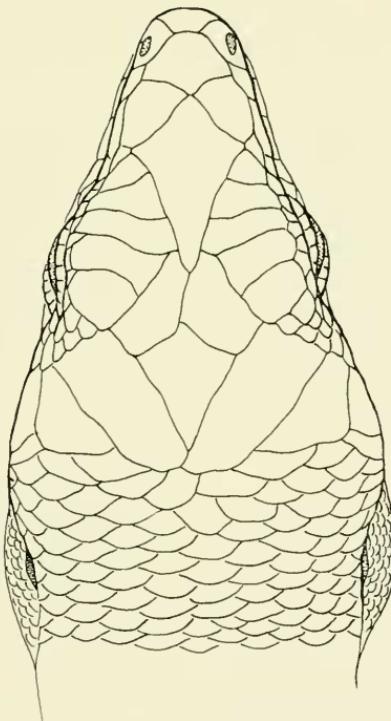


Figure 2. Dorsal view of the head of the holotype of *Sphenomorphus transversus* (MCZ 76485).

Head not depressed, snout somewhat pointed; rostral slightly wider than deep, projecting slightly onto dorsal surface of snout between nasals; external naris in single nasal; no supranasals; single anterior and posterior loreals; frontonasal slightly wider than long, forming a short suture with the rostral and a very short suture with the frontal; prefrontals large, barely separated at their inner angles; frontal  $1\frac{3}{4}$  times as long as wide, in contact with the three anteriormost supraoculars; 5 supraoculars, the first smallest, but in no way to be confused with the anterior superciliaries; lower eyelid scaly; 6th supralabial most directly below eye; a complete row of subocular scales separates scales of lower eyelid from supralabial series; frontoparietals paired and subequal in size with the single interparietal that is sharply pointed posteriorly; parietals meeting behind interparietal and bordered posteriorly by a single large temporal on either side and 5 large dorsal scales between the temporals; no symmetrical series of nuchals.

External ear opening vertically elliptic, without auricular lobes; tympanum sunk slightly below level of skin; 36 smooth scales around midbody, the scales of the two vertebral rows not larger than those of the immediately adjacent rows; a pair of enlarged preanals; scales of three median subcaudal rows subequal in size.

Digits rather long and slender; subdigital lamellae smooth and undilated throughout length of digit; 28-29 lamellae beneath 4th (longest) toe; upper surface of 4th toe covered by one or two

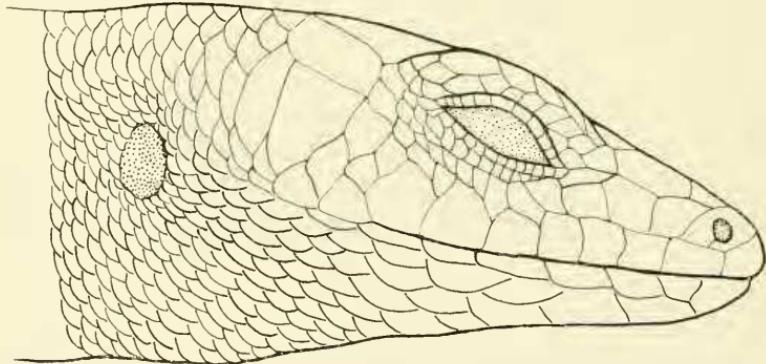


Figure 3. Lateral view of head of *Sphenomorphus transversus* (holotype).

single scales at distal end, 3 rows of scales throughout center part and 4 rows near base (see Brongersma, 1942).

Dorsal ground color light olive with a series of complete and incomplete transverse dark brown bands from nape to base of tail, the brown bands terminating in slightly expanded blotches on sides (Fig. 5), an effect especially pronounced at midbody; a horizontal brown stripe from anterior loreal through eye to temporal region; brown blotches on anterior and upper surfaces of limbs as well as on upper surface of tail; venter immaculate except for a few faint brown spots on throat and underside of tail.

In life the undersides of the limbs, body, and tail were bright yellow.

*Field Notes.* The only known specimen of *S. transversus* was taken by a native collector under a decaying log on the steep side of a montane river valley covered with tall primary forest. The natives did not recognize it as being distinct from *S. concinnatus*, a species common at the type locality of *S. transversus*.

*Morphological Comparisons with Other Bougainville Skinks.* *S. transversus* is immediately distinguishable from *S. concinnatus* by its more sharply tapered, longer snout; the absence of a dark blotch between the ear opening and the forelimb; the smaller external ear opening; and, the regular transverse barring.

Only two other Bougainville skinks, *S. taylori* and *S. cranei*—both very different from *S. transversus* in squamation—have transverse bands on the dorsum. In both these species, however, the dorsal pattern consists of very light transverse bands on a dark ground color, whereas in *S. transversus* the transverse bands are darker than the ground color. *S. transversus* also has a more noticeably pointed snout than either *S. taylori* or *S. cranei*.

*Skull Characters.* It is extremely difficult, if not impossible, to remove the skull of most skinks without severely damaging the skin of the head. For this reason we have not attempted to prepare a skull from the type and only known specimen of *S. transversus*. We have, however, had a palatal view of the skull, and the salient features are as follows: there are 9 premaxillary teeth; the palatine and pterygoid bones meet along the midline to form a fairly extensive secondary palate; there is no ectopterygoid process; and, there are no pterygoid teeth. Unfortunately, these characteristics are not particularly diagnostic, for they would not exclude *S. transversus* from close relationship with any number

of other lygosomines, including those discussed below that are most like *S. transversus* on the basis of external morphology.

*Comparison with Morphologically Similar Species.* In squamation *S. transversus* is most similar to those species of *Sphenomorphus* (Table 1) that have a single anterior loreal, the frontal in contact with 3 or more of the 5 or more supraoculars, the frontoparietals and interparietal distinct, no nuchals or transversely enlarged scales in the two vertebral rows, and the digits and limbs well developed and generally overlapping when adpressed to the body. This assemblage, which is almost surely not monophyletic, is distributed from southern Asia through the Indo-Australian archipelago and Philippines to New Guinea, but not Australia.

Seven species in this group have the prefrontals separated medially (in all or some individuals), as is the case in the single specimen of *S. transversus*. Six of these seven species (*maculatus*, *boulengeri*, *formosensis*, *lineopunctulatus*, and *indicus* from southern Asia and *melanochlorus* from New Guinea) have substantially fewer subdigital lamellae on the 4th toe (16–22) than does *transversus* (28–29), and the seventh (*sanctus* from Sumatra and Java) has finely striated body scales to distinguish it from the smooth-scaled *transversus*. Furthermore, none of these seven species have a dorsal body pattern consisting of well-defined dark crossbars as does *transversus*.

This very characteristic dorsal body pattern of dark crossbars on a light ground color is most similar to the patterns of the cross-banded color morph of *Sphenomorphus flavipes*, the females of *Scincella prehensicauda*, and of all *Leilopisma semoni*. These three species are endemic to neighboring New Guinea and might, therefore, seem to be likely relatives of *Sphenomorphus transversus*. Current work on scale and palatal characters, however, indicates that while *flavipes*, *prehensicauda* and *semoni* are themselves closely related (in spite of current generic allocations), they are only distantly related to *Sphenomorphus transversus*.

#### ACKNOWLEDGEMENTS

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#### LITERATURE CITED

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TABLE 1

Species most similar to *Sphenomorphus transversus* in squamation. Species which we have examined are marked with an asterisk (\*). In those instances in which no reliable data on meristic characters have been available in the literature only data from the type description are given.

Species	Author	Range	Number of			
			Scales around midbody on 4th toe	Subdigital lamellae	Adpressed limbs meet	Supraoculars (touching frontal)
<i>florense*</i>	Weber, 1890/91	Flores Island	44-50	27-29	+	6-7 (4)
<i>kuhnei</i>	Roux, 1910	Kei Islands	42	34	+	7 (4)
<i>misolense</i>	Vogt, 1928	Misol Island	42	22	+	7 (3)
<i>arborens*</i>	Taylor, 1917	Philippines	40-42	21	+	5 (3)
<i>maculatus*</i>	Blyth, 1853	SE Asia	38-42	16-22	-	5 (2-3)
<i>striolatus*</i>	Weber, 1890/91	Flores Island	40	26	+	7 (4)
<i>dussumieri</i>	Duméril & Bibron, 1839	SW India	40	20-25	+	4-5 (2-3)
<i>houllengeri*</i>	Van Denburgh, 1912	Formosa, Hainan, SE China	36-40	18-20	+	4 (2-3)
<i>formosensis*</i>	Van Denburgh, 1912	Formosa, SE China	32-38	16-20	+	4 (2-3)

<i>lineopunctulatus</i>	Taylor, 1962	Thailand	38	22	—	—	4 (3)
<i>indicus</i> *	Gray, 1853	Southern Asia	30-38	16-22	+	+ or —	6 (2-3)
<i>melanochlorus</i>	Vogt, 1932	New Guinea	36	21	+	—	5 (3)
<i>transversus</i> *	new species	Bougainville	36	28-29	+	—	5 (3)
<i>aiguanus</i> *	Boulenger, 1898	St. Aignan I.	32-36	40-42	+	+	5 (3)
<i>sanctus</i> *	Duméril & Bibron, 1839	Sumatra and Java	32-34	25-30	+	—	5 (3)
<i>milnense</i>	Boulenger, 1903	New Guinea	30-32	35-37	+	+	5 (3)

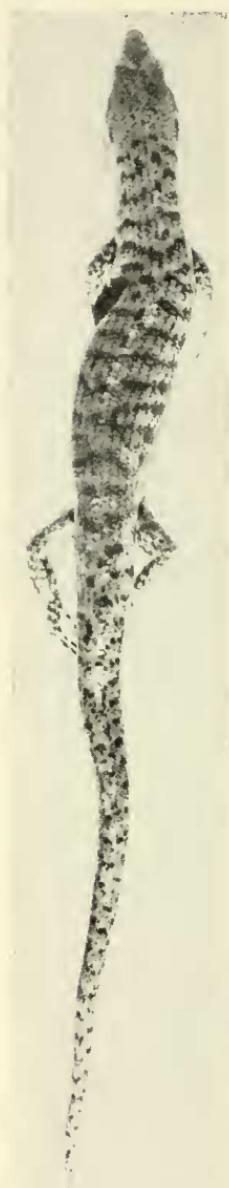


Figure 4. Dorsal view of the holotype of *Sphenomorphus transversus* (MCZ 76485) showing the dark transverse bands which give the species its name.

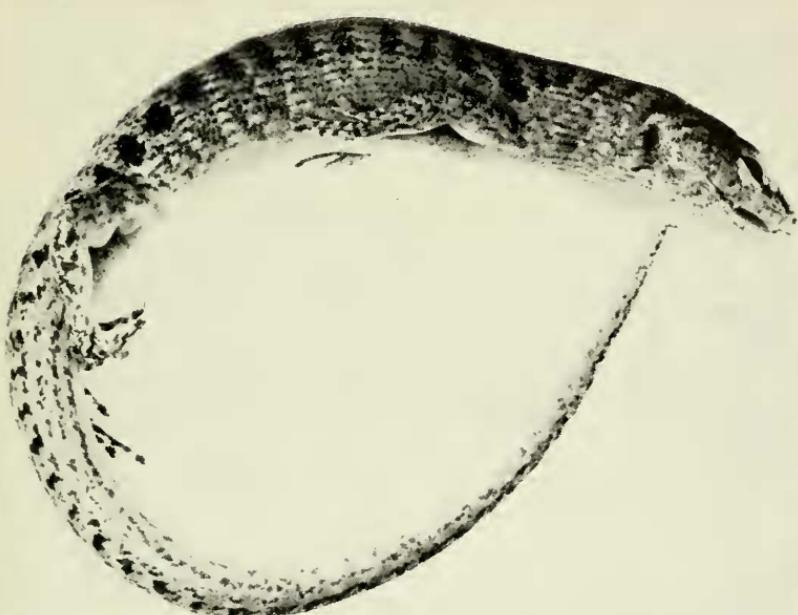


Figure 5. Lateral view of *Sphenomorphus transversus* (holotype).